DRAFT STRATEGIC DEVELOPMENT PLAN FOR SYSTEMS CONTROL INC.

AUGUST 1985



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FUNDAMENTAL OBSERVATIONS

- SIL Commitment
- Organizational Structure
- Fundamental Business Shift
- Dedicated Marketing
- Productivity Improvement
- Core Strategy



SIL COMMITMENT

- Software Products Market Requires Substantial <u>Long-Range</u> Commitment—All Or Nothing Opportunity
- CIM Market Can Only Be Successfully Targeted With Substantial Investment
- U.S. Market Must Be Prime SIL Target--This Means Geographic Expansion Which Is Costly



ORGANIZATIONAL STRUCTURE

- Current Matrix Structure Is Unworkable
- New Structure Needs To Reflect New Emphasis On:
 - Dedicated Marketing/Productizing
 - Human Resources Management
 - Project Management/Cost Control
 - SBU Integration
- Or Split Up Into Separate Companies/Entities



FUNDAMENTAL SHIFT IN BUSINESS MODE AND CONTENT

- ► Large, Complex Projects Bite Size Projects
- Low Profitability Medium
- High Risk Low Risk
- Consulting Dominant
 Products Dominant
- T & M Fixed Price/Schedule

CHANGE IN MINDSET



DEDICATED MARKETING

SBU's Require Very Focused Selling/Positioning Evaluation Of Investment Justification Versus Real Opportunity Finite Markets In Some Areas; Need Follow-On Products/Markets Productizing Is A Professional's Job Dedicated Marketing Function Essential To: Productizing Of Off-The-Shelf Modules Marketing Planning (Business Plan, Competitive Analysis, Market Research, etc.) Promotions/Product Launch Documentation/Sales Support Pricing

Press/Public Relations



PRODUCTIVITY/PROFIT IMPROVEMENT

- Biggest Short-Term Improvement That Could Be Made Is In Establishing Project Management Standards and Project Tracking/Cost Control
- Hire Professional Managers And Train, Train,
- Invest In <u>People</u>, Not Tools
- Also Fundamental To SC's Growth:
 - Using Industry Revenue-Per-Head Averages, \$600 Million in 1990 = 7,000 People
 - Using SC's Current Revenue-Per-Head, \$600 Million = 5,000 People
- Market Specialization Is Also A Proven Way Of Improving Profit Margins:
 - In 1984 Public Diversified Professional Services Companies Averaged
 3.7% Net Profit
 - In The Same Period Public Specialized Professional Services Companies
 Averaged 10% Net Profit



STRATEGY

Direction
 Communication
 Peripheral Strategies Must Match Core

Integrated Development Plan Needed

Core Strategy Needed To Improve:

Cohesion

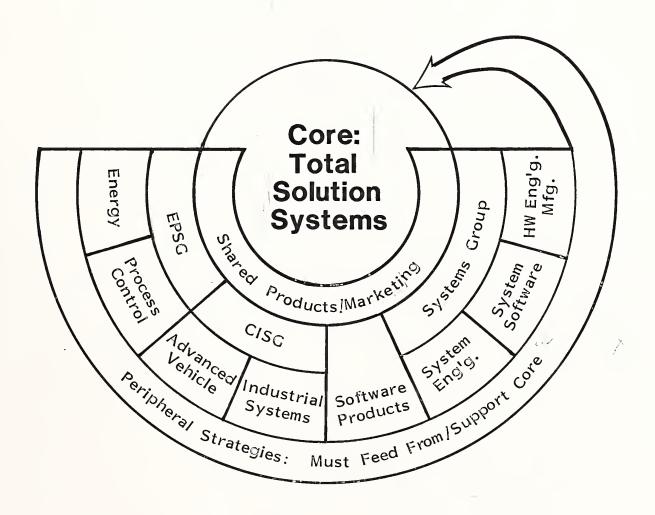


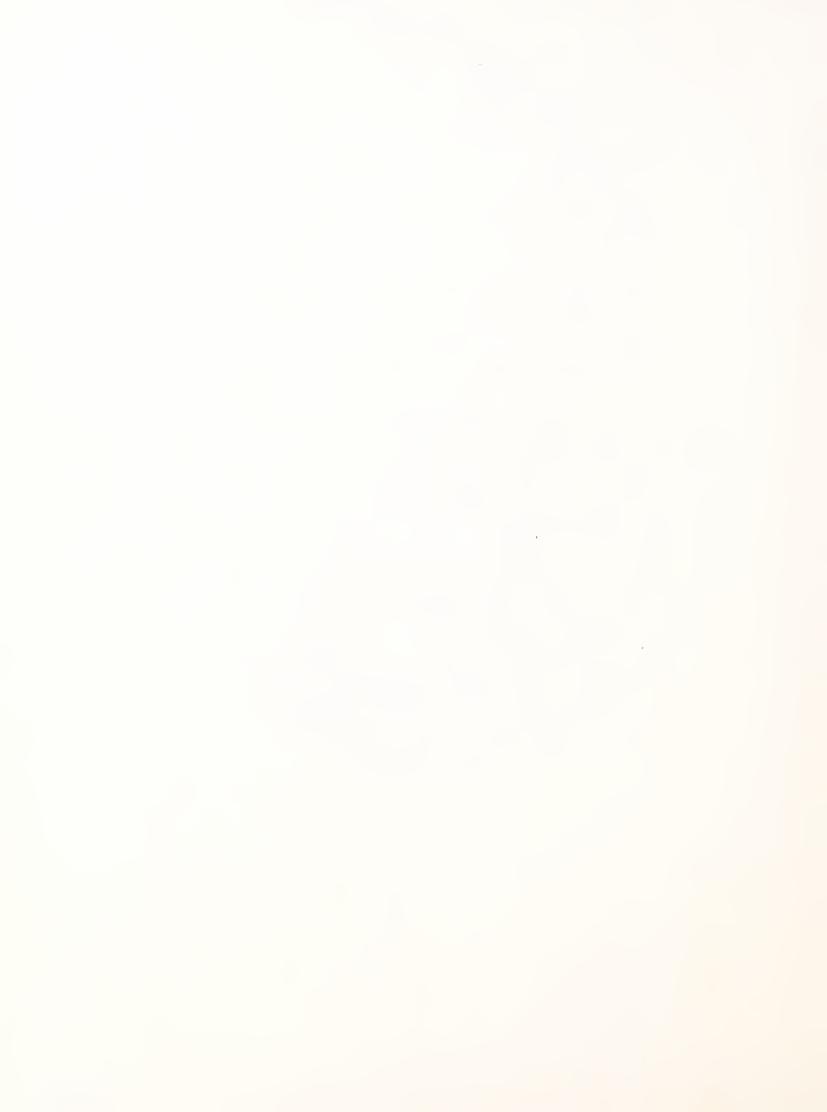
SYSTEMS CONTROL HAS TOO MANY BUSINESS FRAGMENTS

- INPUT Suggests Four Groups At Most:
 - Software Products (U.S., Both Systems And Applications)
 - EPSG (Energy And Process Control Systems Group)
 - CISG (Commercial And Industrial Systems Group)
 - Systems Group (Resource Engine)
- Each Group Must Have A Market Strategy Which Must Fit The Core Market Strategy Of Systems Control (Which Needs To Be Enunciated)

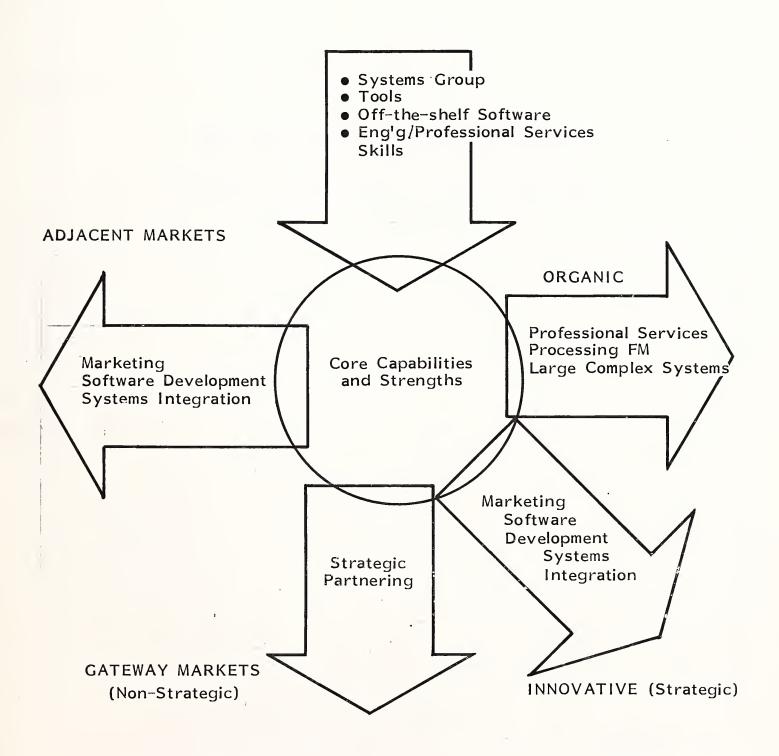


CORE MARKET STRATEGY





LONG RANGE STRATEGY





Business Environment Analysis and Forecasts

NPUT



INTERNATIONAL THEMES

- Telecommunications
- Oil/Energy Management
- · CIM
- Software Products

INPUT



TELECOMMUNICATIONS - INPUT -



TELECOMMUNICATIONS MARKET BUSINESS ENVIRONMENT

- Major Restructuring Underway Due To Partial Deregulation And AT&T Divestiture
- Multiplicity Of Products, Services, And Vendors Has Created The Need For Specialist Consultants, Custom And Packaged Software, And Project Management Expertise
- Data Communications Market Is Huge (\$24 Billion In 1984), But Services Market For Same Is Small. High Potential And Key Account Contracts, However, Plus Fast Growth
- Systems Integration, Consulting, And Custom Software Opportunities



SERVICES TO TELECOMMUNICATIONS SECTOR, 1985-1990

\$ MILLIONS

SERVICE		<u> 1985</u>	1990
•	Software Products	190	620
	- Applications	107	390
	- Systems	83	230
•	Turnkey Systems	90	290
•	Professional Services	125	310
			==
	Total	405 —	1,220



OIL/ENERGY **MANAGEMENT**

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OIL/ENERGY MANAGEMENT MARKET BUSINESS ENVIRONMENT

• Oil: Oil Companies Suffering From Reduced Profitability

And Need For Increasingly Complex Production Processes. Substantial Investment In Downstream

Processing Capabilities

• <u>Electric Utilities</u>: Do Not Expect To Order Significant Amounts Of New

Equipment Until Late 1980s; Also Shift To Smaller Units. Emphasis On Management, Operations, And

Maintenance Of Existing Facilities

• Industry Institutes: Steady, Small Flow Of Studies And Projects Which

Provide Entree To New Markets (e.g., Nuclear)

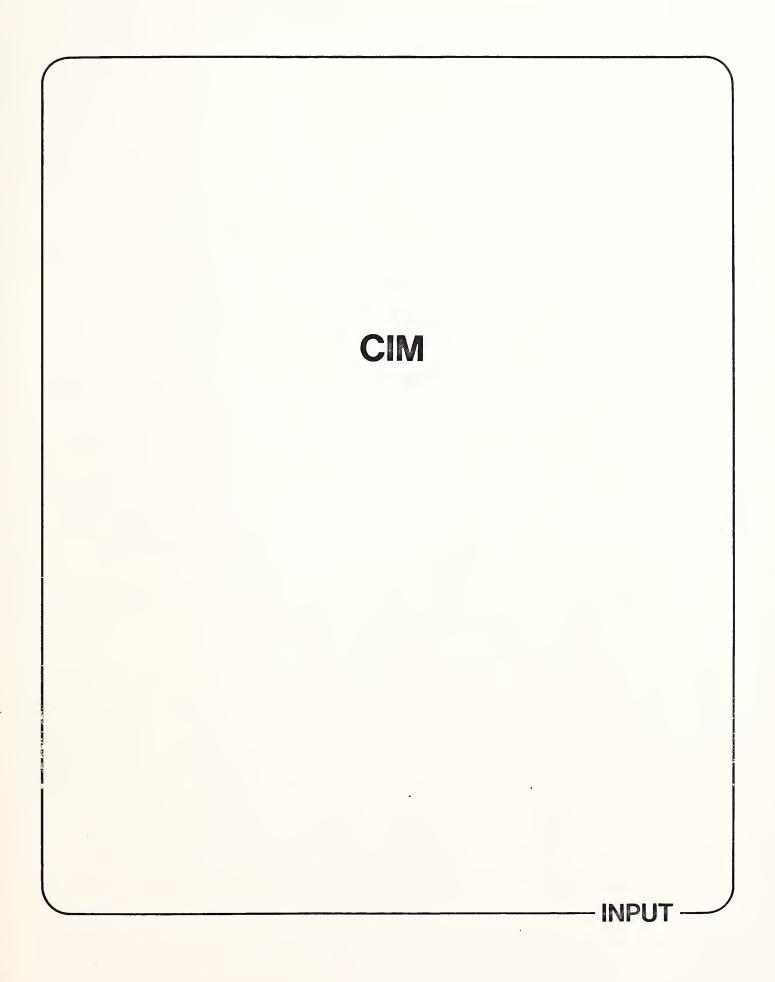


SERVICES TO OIL/ENERGY MARKET 1985-1990

\$ MILLIONS

	SERVICE	OIL & GAS	UTILITIES	TOTAL
	Turnkey Systems	190	50	240
1 9 8	Professional Services	380	128	508
5	Software Products	80	62	142
			=	
	Total	650	240	890
			==	
1	Turnkey Systems	590	105	695
9 9 0	Professional Services	960	325	1,285
U	Software Products	285	220	505
			=	
	Total	1,835	650	2,485







CIM MARKET BUSINESS ENVIRONMENT

- Early Stages Of Development: Network Protocol Standards Are Absent And Vendor Alliances Only Partially Formed (Integration Of Specific Submarkets Where Some Vendors Are Entrenched)
- CIM Penetration Highest In CAD/CAM/CAE Area And Lowest In Process Control And Robotics
- Current Opportunities Are In Large Custom Consulting, Systems Design, And Systems Integration Projects Requiring Good Project Management/Cost Control Skills And Techniques
- High Risk Market: Technology Is New, Customer Expectations Tend To Be
 High And Specification Of Needs Tend To Be Vague



CIM SERVICES MARKET, 1985-1990

\$ MILLIONS

SERVICE	<u> 1985</u>	<u>1990</u>
Turnkey Systems	30	390
Professional Services	70	175
Software Products	115	1,130
Total	215	1,695



SOFTWARE PRODUCTS - INPUT -



SOFTWARE PRODUCTS BUSINESS ENVIRONMENT

- Software Products Have Been The Growth Star Of The Information Services Market, But In The Fourth Quarter Of 1984 The 35% Per Year Growth Slowed To 18%
- The Market Is Suffering From "Product Digestion" At The Top And Bottom Ends:
 - Integrated Software Products And DBMS Sales Have Slowed (Hogan, Cullinet)
 - Personal Computer Software Sales Have Slowed (BPI, MicroPro, Peachtree)
- Too Many Vendors Are Disappointed At Not Being Able To Grow Their Market At 50% Over 1984 (Which Was Already Up 50% Over 1983); Also Poor Business Management
- Software Products Market Remains A Major Services Market Opportunity For 1985-1990



SOFTWARE PRODUCTS MARKET, 1985-1990

			\$ BILLIONS	
TYPE		1985	1990	
APPLICATI	ONS SOFTWARE			
-	Mainframe/Mini	6.3	22.0	
_	Micro	1.4	7.9	
	Total	7.7	29 . 9	
SYSTEMS SOFTWARE				
-	Mainframe/Mini	5.1	15.4	
-	Micro	0.9	6.2	
	Total	6.0	. 21.6	
,			_	
	Grand Total	13.7	51.5	



U.S. THEMES

- Government
 - Federal (Excluding Defense)
 - State and Local
- * Electric Utilities
- * Vehicle Consumer Systems and Services
- * (Treated in SBU Analysis)

INPUT



FEDERAL GOVERNMENT MARKET BUSINESS ENVIRONMENT

- The Federal Government Is The Largest Purchaser Of Professional Services.
 The Upgrade And/Or Total Replacement Of Information Systems Represents
 Half The Expenditures Planned Through 1986. The Largest Are:
 - Social Security Modernization Program
 - Federal Aviation Administration National
 - Aerospace System Replacement
- All Categories Of Communications Expertise is Needed By The Federal Government, Particularly In Systems Design, Network Analysis, Product/System Selection, Training/Education, And Support Services
- Wider Use Of Commercial Software Is Being Emphasized As A Means Of Reducing Existing (Unrealizable) Software Cost Envelope Projections



FEDERAL GOVERNMENT MARKETS, 1985-1990

			<u>\$ MI</u>	LLIONS
SERV	ICE		1985	<u>1990</u>
•	Softv	vare Products	431	1,074
•	Turnl	key Systems	507	1,244
•	Profe	essional Services	2,926 ——	7,152 ——
	-	Software Development	996	2,469
	-	Consulting	336	681
	-	Education And Training	268	797
	-	Facilities Management	568	1,043
	4.5	Systems Integration	758	2,162
		·		
		Total	3,864	9,470



STATE AND LOCAL GOVERNMENT BUSINESS ENVIRONMENT

Current Expenditures By Sector Are:

State : 45%
 City : 30%
 County : 14%
 Districts And Other : 11%

State Areas Of Opportunity:

Information Services 1985

Education : Highly Decentralized : \$154 Million

Welfare : Medicaid : \$81 Million

Transportation : Department of Motor Vehicles : \$41 Million

General : Law Administration : \$85 Million

Hospitals : Cost Control : \$36 Million

- Fastest Growing States (In Order): California, Texas, Washington, And Florida
- City Areas Of Opportunity:

- Utilities : Water Companies

- Public Safety : Communications

- Highway : Traffic Analysis And Planning

Welfare : Entitlement ProgramsEducation : Decentralized

- Sanitation : Planning And Forecasting



STATE AND LOCAL GOVERNMENT MARKETS, 1985-1990

				\$ MILLIONS
SERV	<u>ICE</u>		1985	1990
•	Soft	ware Products	180	343
•	Turi	nkey Systems	<u>63</u>	167 —
•	Prof	fessional Services	<u>86</u>	180
	-	Software Development	38	80
	-	Consulting	25	50
	-	Education And Training	7	15
	-	Facilities Management	5	П
	-	Systems Integration	11	24
				and comments
v		Total	329	690 —



SYSTEMS CONTROL SBU GROWTH PATHS

NPUT



CURRENT AND POTENTIAL GROWTH PATHS

Expansion Of Current Activities

 ADJACENT - Expansion Into Markets That Are Related To Current Products/Services

ORGANIC

- GATEWAY Leverage Of Current/Adjacent Market
 Products/Services Through Strategic Partners
- INNOVATIVE Side-Step Into New Markets With Same Skill Requirements/Characteristics



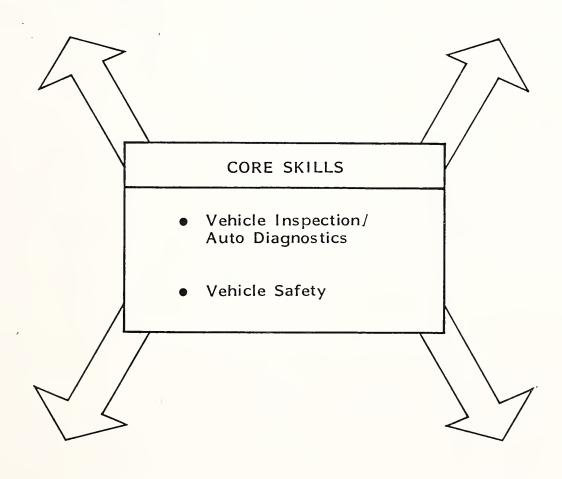
SC ADVANCED VEHICLE SYSTEMS GROWTH PATHS

ORGANIC

- Contract Renewals
- (Small No. of) New Contracts
- Referee/QC Business

ADJACENT

 On-Line Service Station Smog Test Monitoring/Reporting



INNOVATIVE

Private Aircraft Maintenance Monitoring (M1, M2, M3)

GATEWAY

o International Markets (West Germany, France) for Current Products

"New Markets" Thrust Imperative NOW.



SC ELECTRIC UTILITY MARKETS

	GENERATION	TRANSMISSION	DISTRIBUTION
D	• A & E Firms • Specialty Firms DEAD	 SP; EPRI Industry Standard Software SC Potential 	 SP; EPRI Starting Small Utilities Potential SC Potential
C O N S T R U C T - O N	• Industrials • A & E DEAD	• A & E Firms Solely	FM IntegrationMapping, DBSC Potential
MAINT.	Emerging (SW)A & E; EPRISC Potential	No SC Knowledge	Large UtilitiesEmerging MarketSC Potential
O P E R A T I O N S	 Plant Optimization/ Profit Emerging SC Potential 	EMS/SCADAHigh Tech/Rate of ChangeSC Active	SCADATie to Plg./Constr./ Mainten.SC Active



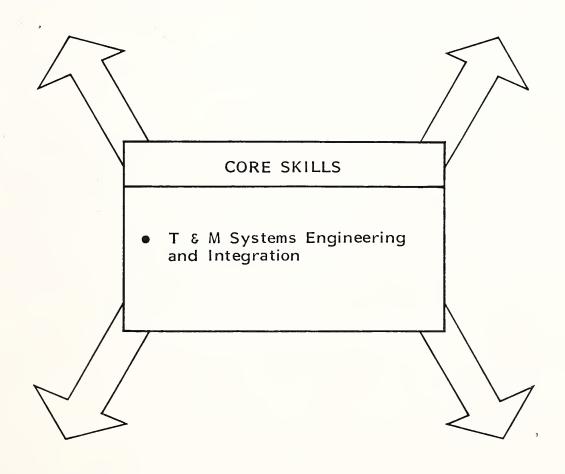
SC ENERGY SYSTEMS GROWTH PATHS

ORGANIC

- Develop Fixed Price/Fixed Schedule Controls/Management
- Increased Marketing in Power Distribution

ADJACENT

- Plant Maintenance
- Emerging Market



INNOVATIVE

Plant Optimization/Management (Big Emerging Market)

GATEWAY

- Combustion Engineering (Fossil)
- B & W (Nuclear)

Develop Matrix of Services That Complement Each Other



SC PROCESS CONTROL SYSTEMS

- Should Be Integrated Into Energy Systems Group
- Only Expansion Opportunities Are "More Of Same," New Hardware
- A Component, Not A Market
- Focus On Standardizing Hardware And Software Building Blocks



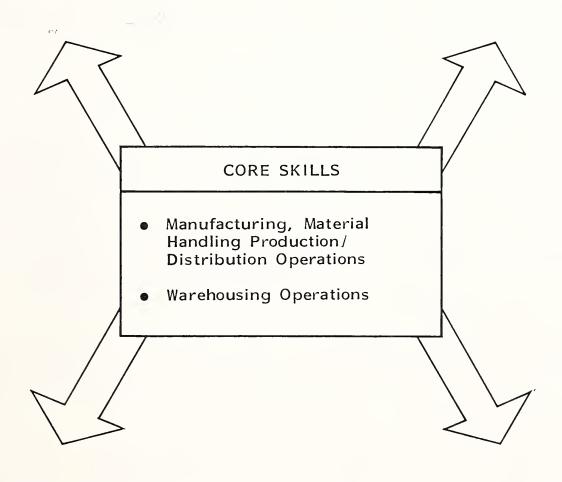
SC INDUSTRIAL SYSTEMS GROWTH PATHS

ORGANIC

- Bid Investment (\$1M:\$50M)
- People Are the Gating Factor.

ADJACENT

Teroman Turnkey



INNOVATIVE

o Not Needed

GATEWAY

- Laterals (HW Supplies, SW COS)
- Verticals (Primes)

Few Growth Paths Needed; Current Market Big Enough for Present



SC INFORMATION SYSTEMS STRATEGIC DIRECTION

•	-	ns Decided On Will Determine The Future Of SC In Packaged Software everaged Turnkey Systems Markets:
	-	Which Operating System(s)?
	-	Which Data Base(s)?
	-	Which Hardware Manufacturer(s)?
•		ct Priorities Must Feed/Integrate With SC's Divisional Needs Rather Simply Targeting SP Markets
•		th Path Is A Function Of Strategy (Which Has Too Many Variables In It e Moment)
	-	Organic Growth Is Likely To Be Small
	-	Base Must Be Built Before Adjacent And Gateway Projections Can Be Made
	_	Acquisitions Are Main Source Of Substantial Growth



SBU OPPORTUNITY PROJECTIONS 1985-1990

- INPUT -



OPPORTUNITY PROJECTIONS

- For Each Of The Following SBU Forecasts, The Baseline Projection Is Current Business Plan Plus INPUT's Expectation Of Growth To 1990
- Organic, Innovative, And Gateway Markets Are Subjective Evaluations Which Are Presented As High Potential Possibilities. However, These Can Change As Opportunities Present Themselves
- Each of the Projections Requires Substantial Investment If It Is To Be Achieved And Assumes The Ability Of Systems Control To Staff And Manage The New Areas



SBU: ADVANCED VEHICLE SYSTEMS

	Rounded to \$ Millions						
Revenue Type	Base Year 1984	Budget 1985	1986	1990	1986-1990 AAGR (Percent)		
Current Baseline	17	18	34	35			
Current baseline	17	10	34	35	_		
Organic Growth	-	-	4	8	19		
On-Line Smog Reporting (Adjacent)	-	-	-	10	NA		
Private Aircraft Maintenance (Innovative) Reporting	-	-	-	20	NA		
International Markets (Gateway)	-	-	1	10	78		
Total Potential (\$ Millions)	17	18	39	83	21%		



SBU: ELECTRIC UTILITY MARKETS AND PROCESS CONTROL

	Rounded to \$ Millions					
Revenue Type	Base Year 1984	Budget 1985	1986	1990	1986–1990 AAGR (Percent)	
Current Baseline	15	14	13	27	20	
Organic Growth (Distribution)	-	-	2	10	20	
Plant Maintenance (Adjacent)	-	-	1	20	111	
Plant Optimization/Management (Innovative)	_	-	2	30	97	
Strategic Partnering (Gateway)	_	_	_	20	NA	
Total Potential	15	14	18	107	56	



SBU: INDUSTRIAL SYSTEMS

	Rounded to \$ Millions						
Revenue Type	Base Year 1984	Budget 1985	1986	1990	1986-1990 AAGR (Percent)		
Current Baseline	1	12	15	25	14		
Organic Growth	_	-	10	40	41		
Teroman Turnkey	-	_	-	15	NA		
Innovative (Not Needed)	-	-	-	-	-		
Gateway (Not Identified)	-	_	-	-	NA		
Total Potential	1	12	25	80	3 <i>t</i> ;		



SBU: INFORMATION SYSTEMS (Software Products)

	Rounded to \$ Millions						
Revenue Type	Base Year 1984	Budget 1985	1986	1990	1986-1990 AAGR (Percent)		
Current Baseline	-	_	2	10	50		
Organic Growth	-	-	-	NA	NA		
Adjacent (Not Identified)	- ,	-	-	-	NA		
Innovative (Not Identified)	-	-	-	-	NA		
Acquisitions (Gateway)	-	-	10	25	26		
Total Potential	-	_	12	35	. 31		



SUMMARY REVENUE FORECAST

SOURCE	1984	1985	1986	1990	1986-1990 AAGR
BASELINE					
Advanced Vehicle	17	18	34	35	=
Electronic Utility	15	14	13	27	20
Industrial Systems	1	12	15	25	14
Information Systems	_	_	2	10	50
Totals	33	44	64	97	11
Other					
Advanced Vehicle	_	_	5	48	76
Electric Utility	-	_	5	80	100
Industrial Systems	-	_	10	55	53
Information Systems	-	_	10	25	26
Totals	_	_	30	208	62
Grand Totals	33	. 44	94	305	34



SUMMARY

- Acquisitions/Joint Ventures Must Supply \$295 Million Of Additional Revenue
 By 1990 To Reach \$600 Million Goal
- Some Acquisitions Are Necessary To Support \$208 Million Forecasted Growth For Existing Businesses (Particularly Software Products)
- Goal Must Be One Company The Size of SC Each Year, 1986 Through 1990
- Acquisitions Must Support Peripheral Strategies As Well As Core Strategy
- Substantial Investment Needed To Achieve \$305 Million Forecasted Goal



ACQUISITION TARGETS SOFTWARE PRODUCTS

- A Significant Software Products Base Cannot Be Built Without Acquisitions
- Software Industry In Temporary Slump. Good Time To Review Target Opportunities
- (Target List Cannot Be Established Without A Strategic Direction)
- Recommendations:
 - DB Companies
 - Compatible Software/Professional Services Companies
 - System Software Companies
- Also, Consider Selling Marketing Rights To Certain U.S. Vertical Non-Strategic Markets For Products Like TEROMAN While Retaining Strategic Vertical Markets For Direct Sales



POTENTIAL ACQUISITIONS IN SOFTWARE PRODUCTS

COMPANY	\$ REVENUE (N 1985 (1984)	SPECIALTY	STATUS
Integral Systems Walnut Creek (CA)	20	Human Resources Management	Private
AMS Arlington (VA)	97 (1984)	Federal Government, State And Local, Energy Companies, Telecoms, Colleges/Universities Financial	OTC
American Software Atlanta (GA)	30	IBM-Based, Marketing Oriented, Productizing Of Other Software	отс
Goal Systems International Columbus (OH)	14	Systems Management, Computer Security, Computer-Based Training	Private
BGS Waltham (MA)	II (1984)	Capacity Management, Network Analysis, Federal Government Professional Services	отс



JOIN FORCES WITH THE POWERS THAT BE

•	IBM	
	-	Now Open To Discuss Joint Marketing Programs With Professional Services Vendors In The Information Services Arena
•	DBMS	
	-	Cullinet, Software AG, CINCOM, ADR, Data Retrieval
•	Strate	gic Partnering For Specific, Focused Markets, e.g.:
	-	Telecredit/Light Signatures For Entitlement Programs
	-	Informatics For Legal Services
9	Target	Specific, Focused Applications, e.g.:
	-	Motor Vehicle Historical Data
	_	Vehicle And Driver Registration Systems



INVESTMENT REQUIREMENTS

- In Evaluating The Investment Needs, INPUT Used The Following Assumptions And Guidelines:
 - Baseline And Organic Growth 15% Of On-Going Revenue
 - Adjacent Markets 20% Of Same
 - Gateway Markets 10% Of Same
 - Innovative Markets 100% Of Same Over Five-Year Period
 - Acquisitions If Company Bought Is A Leader, 100% Or More Of Revenue; If Secondary Rank 80%



BASELINE INVESTMENT REQUIREMENTS

SBU	1986	1987	1988	1989	1990	Total
Advanced Vehicle Systems	5.1	5.4	5.7	5.4	5.2	26.8
Electric Utility Markets and Process Control	1.9	2.2	2.7	3.4	4.0	14.2
Industrial Systems	2.2	2.5	3.0	3.3	3.7	14.7
Information Systems (Software Products)	0.3	0.6	0.9	1.2	1.5	4.5
Totals	9.5	10.7	12.3	13.3	14.4	60.2



ORGANIC GROWTH INVESTMENT REQUIREMENTS

SBU	1986	1987	1988	1989	1990	Total
Advanced Vehicle Systems	0.6	0.7	0.9	1.0	1.2	4.4
Electric Utility Markets and Process Control	0.3	0.6	0.9	1.2	1.5	4.5
Industrial Systems	1.5	2.1	3.0	4.2	6.0	16.8
Information Systems (Software Products)	-	- NO	T APPLIC	CABLE	-	-
Totals	2.4	3.4	4.8	6.4	8.7	25.7



ADJACENT MARKET INVESTMENT REQUIREMENTS

SBU	1986	1987	1988	1989	1990	Total
Advanced Vehicle Systems	-	0.4	0.8	1.6	2.0	4.8
Electric Utility Markets and Process Control	0.2	0.4	0.8	1.8	4.0	7.2
Industrial Systems	-	0.6	1.4	2.2	3.0	7.2
Information Systems (Software Products)	-	- NO:	T IDENTI	FIED	-	-
Totals	0.2	1.4	3.0	5.6	9.0	19.2



INNOVATIVE MARKETS INVESTMENT REQUIREMENTS

SBU	1986	1987	1988	1989	1990	Total
Advanced Vehicle Systems	-	-	1.3	3.9	9.1	14.3
Electric Utility Markets and Process Control	0.5	1.5	3.3	7.3	14.3	26.9
Industrial Systems	-	- N	OT NEED	ED -	-	-
Information Systems (Software Products)	-	- NO	, T IDENT	IFIED	-	-
Totals	0.5	1.5	4.6	11.2	23.4	41.2



GATEWAY MARKETS INVESTMENT REQUIREMENTS

SBU	1986	1987	1988	1989	1990	Total
Advanced Vehicle Systems	0.1	0.2	0.3	0.5	1.0	2.1
Electric Utility Markets and Process Control	-	0.1	0.5	1.0	2.0	3.6
Industrial Systems	-	NOT	IDENTIF	, FIED	-	-
Information Systems (Software Products)	-	NOT IDENTIFIED			-	-
Totals	0.1	0.3	0.8	1.5	3.0	5.7



INVESTMENT REQUIREMENTS FOR SUMMARY REVENUE FORECAST

INVESTMENT TARGET	1986	1987	1988	1989	1990	TOTAL
Current Baseline	9.5	10.7	12.3	13.3	14.4	60.2
Organic Growth	2.4	3.4	4.8	6.4	8.7	25.7
Adjacent Markets	0.2	1.4	3.0	5.6	9.0	19.2
Innovative Markets	0.5	1.5	4.6	11.2	23.4	41.2
Gateway And Acquisitions	0.1	0.3	0.8	1.5	3.0	5.7
Total	12.7	17.3	25.5	38.0	58.5	152.0



MANPOWER REQUIREMENTS

- Based On Industry Averages, Systems Control Should Be Able To Generate \$60,000 Of Annual Revenue Per Employee. This Value Will Rise By 6% Per Year From 1985 Through 1990
- This Suggests That A Revenue Goal Of \$600 Million By 1990 Requires
 Approximately 7,000 People
- Using SC's Current Revenue-Per-Head Value And The Same 6% Per Year Growth Rate, The \$600 Million Goal Would Require 5,000 People
- A Similar Size Software Products Company Would Need Only 3,000 People
- Whatever The Mix Of SC Products And Services In 1990, SC Will Need
 <u>Professional Managers</u> To Control The Company, Which It Currently Lacks—SC Currently Has An Abundance Of Extremely <u>Competent But Technical</u> Senior People





